REMARKS

The present Amendment amends claims 1, 6 and 11, cancels claims 2-5, 7-10 and 12, and adds new claims 13-18. Therefore, the present application has pending claims 1, 6, 11 and 13-18.

35 U.S.C. §101 Rejections

Claims 11 and 12 stand rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. As previously discussed, claim 12 was canceled. Therefore, this rejection regarding claim 12 is rendered moot. This rejection regarding the remaining claim 11 is traversed for the following reasons. Applicants submit that claim 11, as now more clearly recited, is directed to statutory subject matter.

More specifically, claim 11 is directed to a computer program product, which is classified in the statutory category of a "manufacture" (e.g., an article, medium, product, program, element, data structure, GUI, etc.). Consistent with any definitions in the specification, elements or features of the claimed computer program product are ***necessarily*** implemented in hardware (e.g., a computer as recited in claim 11). Therefore, the subject matter of claim 11 is tangible, and claim 11 is statutory. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claim 11.

35 U.S.C. §112 Rejections

Claims 4 and 5 stand rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. As previously discussed, claims 4 and 5 were canceled. Therefore, this rejection regarding claims 4 and 5 is rendered moot.

35 U.S.C. §102 Rejections

Claims 1-12 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0065918 to Shastri. As previously discussed, claims 2-5, 7-10 and 12 were canceled. Therefore, this rejection regarding claims 2-5, 7-10 and 12 is rendered moot. This rejection regarding the remaining claims 1, 6 and 11 is traversed for the following reasons. Applicants submit that the features of the present invention, as now more clearly recited in claims 1, 6 and 11, are not taught or suggested by Shastri whether taken individually or in combination any of the other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention. Specifically, amendments were made to the claims to more clearly recite that the present invention is directed to a service processing and apparatus, and a computer program product, as recited, for example, in independent claims 1, 6 and 11.

The present invention, as recited in claim 1, and as similarly recited in claims 6 and 11, provides a service processing method used in a computer system. The computer system includes a series of computers, where each computer receives a message, executes an individual service based on the received message, and then outputs at least one message generated from the result of the execution. The computer system executes a series of services in a coordinated manner by transmitting and receiving the messages along the series of computers. The method, which is implemented in one of the series of computers, includes a step of receiving from a preceding upstream computer a message including first information about a service execution request from the preceding upstream computer, and

second information about at least one notification request of progress information issued from each upstream computer. The method also includes executing the individual service according to the first information. The method further includes analyzing the second information, and after that, based on the execution result of the individual service, generating at least one message according to the second information, and then transmitting the generated message to each of the upstream computers that is identified by a destination of progress information notification included in each notification request of the second information. Also, the method includes transmitting to each following downstream computer a message including a service execution request for the following downstream computer, and the second information to be passed through about at least one notification request from each of the upstream computers in addition to a notification request of progress information to be reported to the one of the series of computers. The prior art does not disclose all of these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record, particularly Shastri, whether taken individually or in combination with any of the other references of record.

Shastri teaches a method and apparatus for efficient and accountable distribution of streaming media content to multiple destination servers in a data packet network (DPN). However, there is no teaching or suggestion in Shastri of the service processing method and apparatus, or the computer program product, as recited in claims 1, 6 and 11 of the present invention.

Shastri discloses a system for efficient streaming of media content from a client content provider to individual Internet destinations. The system includes: an

Internet-connected base server for job initialization and tracking; and a matrix of Internet-connected node servers, at least some of which are to receive the streaming media content. The client, the base station and the node servers each execute cooperative software, where a client requests a job session of the base server, specifying dimensions of the job, and the base server creates a unique job object defining the job, receives the streaming content from the client, governs distribution of the streaming content to the matrix of node servers according to the job object, and notifies the client content provider of progress and completion. A single client can create multiple job objects to be prosecuted in tandem by the base server, and a base server can handle jobs from multiple clients. Cascaded streaming is supported, including optimization techniques and monitoring a repair of nodes.

One feature of the present invention, as recited in claim 1, and as similarly recited in claims 6 and 11, includes receiving from a preceding upstream computer a message including first information about a service execution request from the preceding upstream computer, and second information about at least one notification request of progress information issued from each upstream computer. Shastri does not disclose this feature.

In the present invention, the computers system performs a series of services by combining a plurality of computers, where each computer provides and individual service. The upstream computer can receive the notification of progress information each downstream computer outputs by simply issuing a notification request to the following downstream computer. Each computer can transmit the progress information to the appropriate requesters, without knowledge of the processing the individual requester performs.

On the other hand, as shown in Fig. 1, and as described in the accompanying text, Shastri discloses a network system that distributes media content from a client content provider to multiple destination servers via a base server and a network of node servers. The base server creates a job object, receives the media content from the client, distributes the job object and the content to the node servers, notifies the client of progress and completion, and waits for the notification of completion form the node servers. The base server continues to monitor job progress until all the servers have responded with job-completion notification. Shastri distributes a single media content over multiple node servers. The node servers are just passing points to deliver the media content up to the destination servers. Only the client content provider needs to see via the base server if the media content has reached all of the destination servers, and if any node server is blocking its job due to a malfunction.

In this way, Shastri does not teach the notification request of progress information, as in the present invention. All the notifications that the node servers of Shastri issue are forwarded directly to the base server (see, e.g., Fig. 6 and paragraph [0058]). The source node server, which sent the job object and the content of the adjacent node servers, receives no job-completion notification from the node servers. Unlike the present invention, where the current one of the series of computers issues its own notification request to each following downstream computer to request the progress information from the latter, Shastri does not disclose this feature. Each computer in the present invention performs unique processing together with integrating the execution results of its downstream computers, a feature which is quite different from the node server of Shastri.

Another feature of the present invention, as recited in claim 1, and as similarly recited in claims 6 and 11, includes analyzing the second information, and after that, based on the execution result of the individual service, generating at least one message according to the second information, and then transmitting the generated message to each of the upstream computers that is identified by a destination of progress information notification included in each notification request of the second information. Shastri does not disclose this feature.

As described in paragraph [0054], Shastri teaches where a server S1 receives a copy of J1 from the base server 14, where the copy includes any commands sent to the base server 14. The server S1, upon receiving the job information, commands the media from the base server 14, and sends notification back to the base server 14. At this time, notification information is passed back to the client 13, from the base server 14.

As previously discussed, Shastri does not teach or suggest where one of the series of computers receives second information about at least one notification request of progress information issued from each upstream computers. It follows that Shastri does not teach or suggest analyzing the second information, generating at least one message according to the second information, based on the execution result of the individual service, and then transmitting the generated message to each of the upstream computers that is identified by a destination of progress information notification included in each notification request of the second information, in the manner claimed.

Yet another feature of the present invention, as recited in claim 1, and as similarly recited in claims 6 and 11, includes transmitting to each following downstream computer a message including a service execution request for the

following downstream computer, and the second information to be passed through about at least one notification request from each of the upstream computers in addition to a notification request of progress information to be reported to the one of the series of computers. Shastri does not disclose this feature.

As previously discussed, Shastri merely discloses where the base server creates a job object, receives the media content from the client, distributes the job object and the content to the node servers, notifies the client of progress and completion, and waits for the notification of completion form the node servers. This is quite different from the present invention, where a message including a service execution request for the following downstream computer is transmitted to each following downstream computer, and where the second information to be passed through about at least one notification request from each of the upstream computers in addition to a notification request to progress information to be reported to the one of the series of computers is transmitted to each following downstream computer.

Therefore, Shastri fails to teach or suggest "receiving from a preceding upstream computer a message including first information about a service execution request from the preceding upstream computer, and second information about at least one notification request of progress information issued from each upstream computer" as recited in claim 1, and as similarly recited in claims 6 and 11.

Furthermore, Shastri fails to teach or suggest "analyzing the second information, and after that, based on the execution result of the individual service, generating at least one message according to the second information, and then transmitting the generated message to each of the upstream computers that is identified by a destination of progress information notification included in each

notification request of the second information" as recited in claim 1, and as similarly recited in claims 6 and 11.

Further, Shastri fails to teach or suggest "transmitting to each following downstream computer a message including a service execution request for the following downstream computer, and the second information to be passed through about at least one notification request from each of the upstream computers in addition to a notification request of progress information to be reported to said one of the series of computers" as recited in claim 1, and as similarly recited in claims 6 and 11.

Therefore, Shastri does not teach or suggest the features of the present invention, as recited in claims 1, 6 and 11. Accordingly, reconsideration and withdrawal of the 35 U.S.C. §102(b) rejection of claims 1, 6 and 11 as being anticipated by Shastri are respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references used in the rejection of claims 1, 6 and 11.

New Claims 13-18

Claims 13-18 were added to more clearly describe feature of the present invention. Claims 13 and 14 are dependent on claim 1, claims 15 and 16 are dependent on claim 6, and claims 17 and 18 are dependent on claim 11. Therefore, Applicants submit that claims 13-18 are allowable for at least the same reasons as their respective independent claims. Furthermore, Applicants submit that Shastri fails to teach or suggest the features of the present invention, as recited in new claims 13-18.

For example, Shastri fails to teach or suggest the features of the present invention, as recited in claims 13, 15 and 17, which are directed to where the notification request includes a hierarchical level indicating the extent of downstream level to which the most upstream computer requests the notification of progress information. This feature is not possible in Shastri, where the client content provider has to ensure that the media content has reached all of the destination servers.

By way of further example, Shastri fails to teach or suggest the features of the present invention, as recited in claims 14, 16 and 18, which are directed to where the notification request includes a degree of details in which detail the most upstream computer expects the progress information to be returned. It is enough for Shastri's node server to return a simple job-completion notification to the base server because each node server merely performs a monotonous job of delivering the media content to the adjacent node servers.

Accordingly, the present invention is quite different from Shastri, and Shastri does not teach or suggest the features of new claims 13-18.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (referencing Attorney Docket No. NIT-419).

Respectfully submitted,

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